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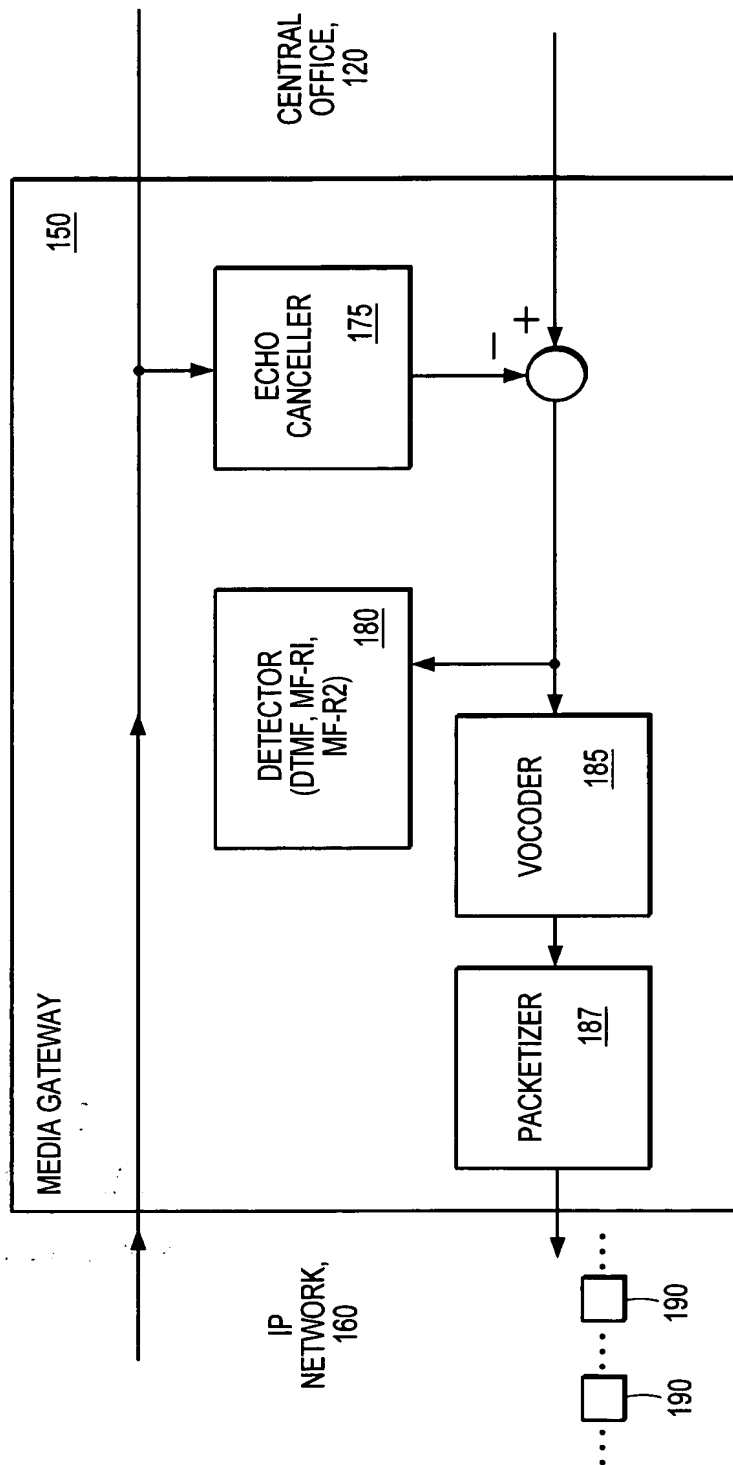
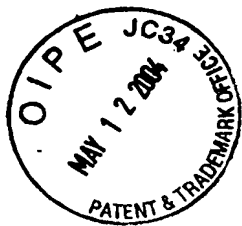


FIG. 1B



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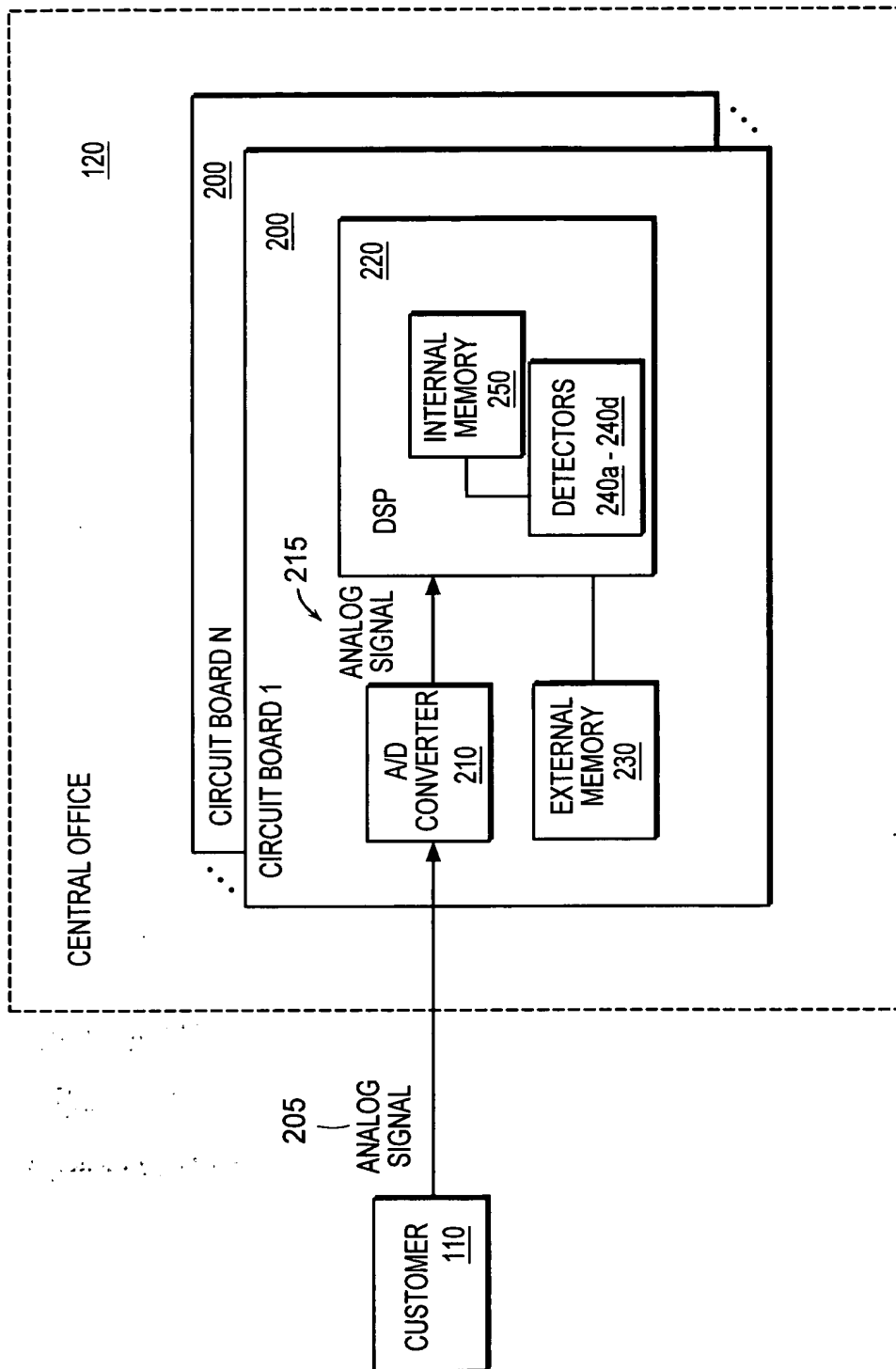
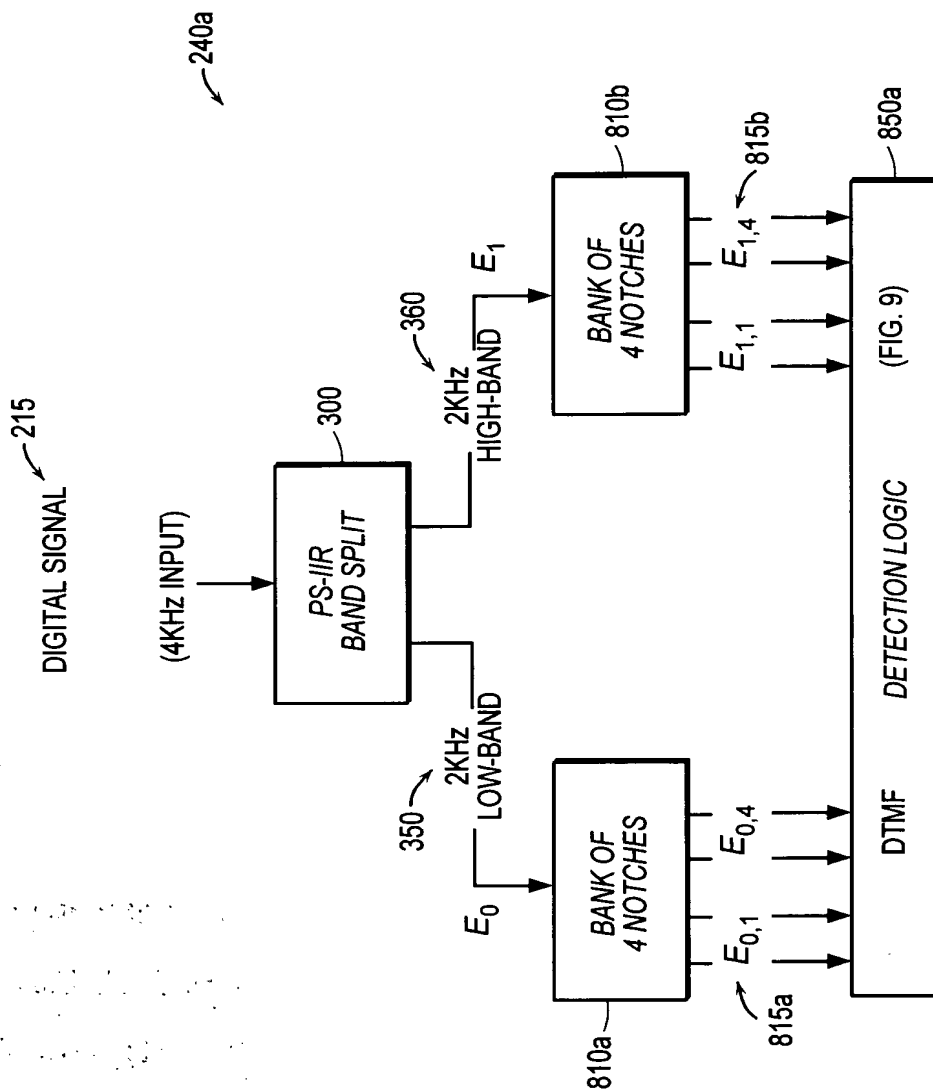
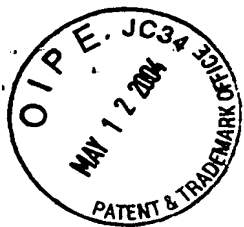
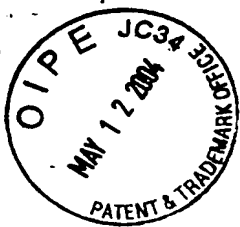


FIG. 2



DTMF DETECTOR BLOCK DIAGRAM

FIG. 3



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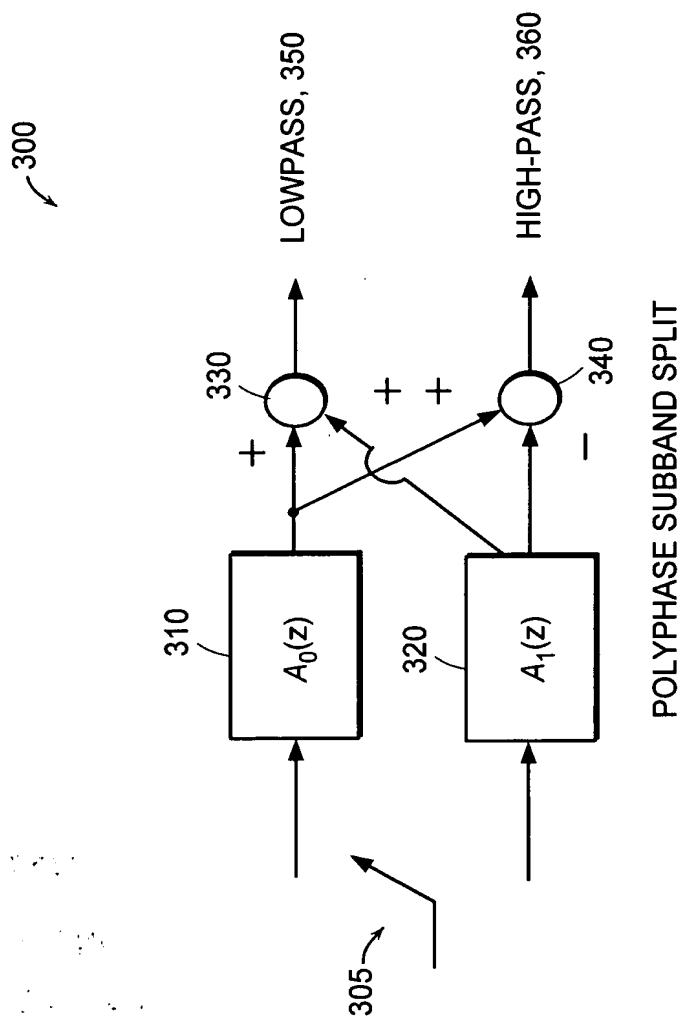
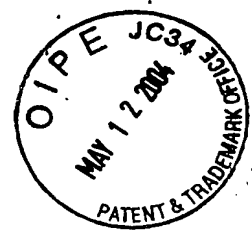
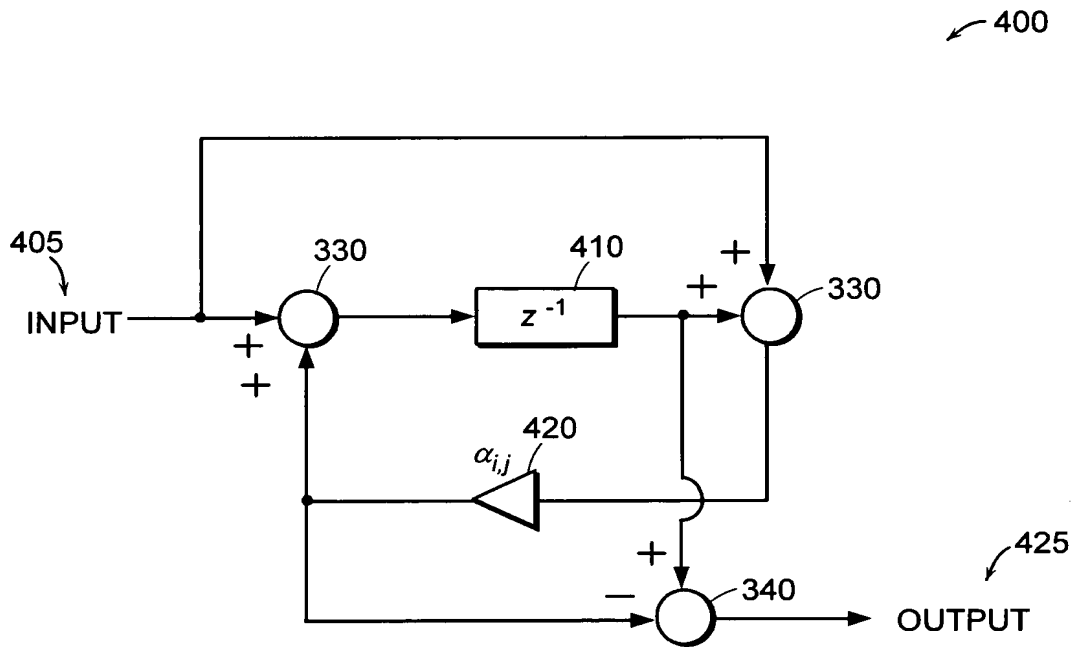


FIG. 4

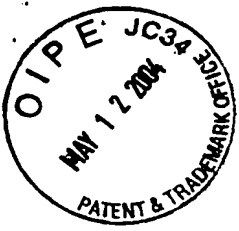


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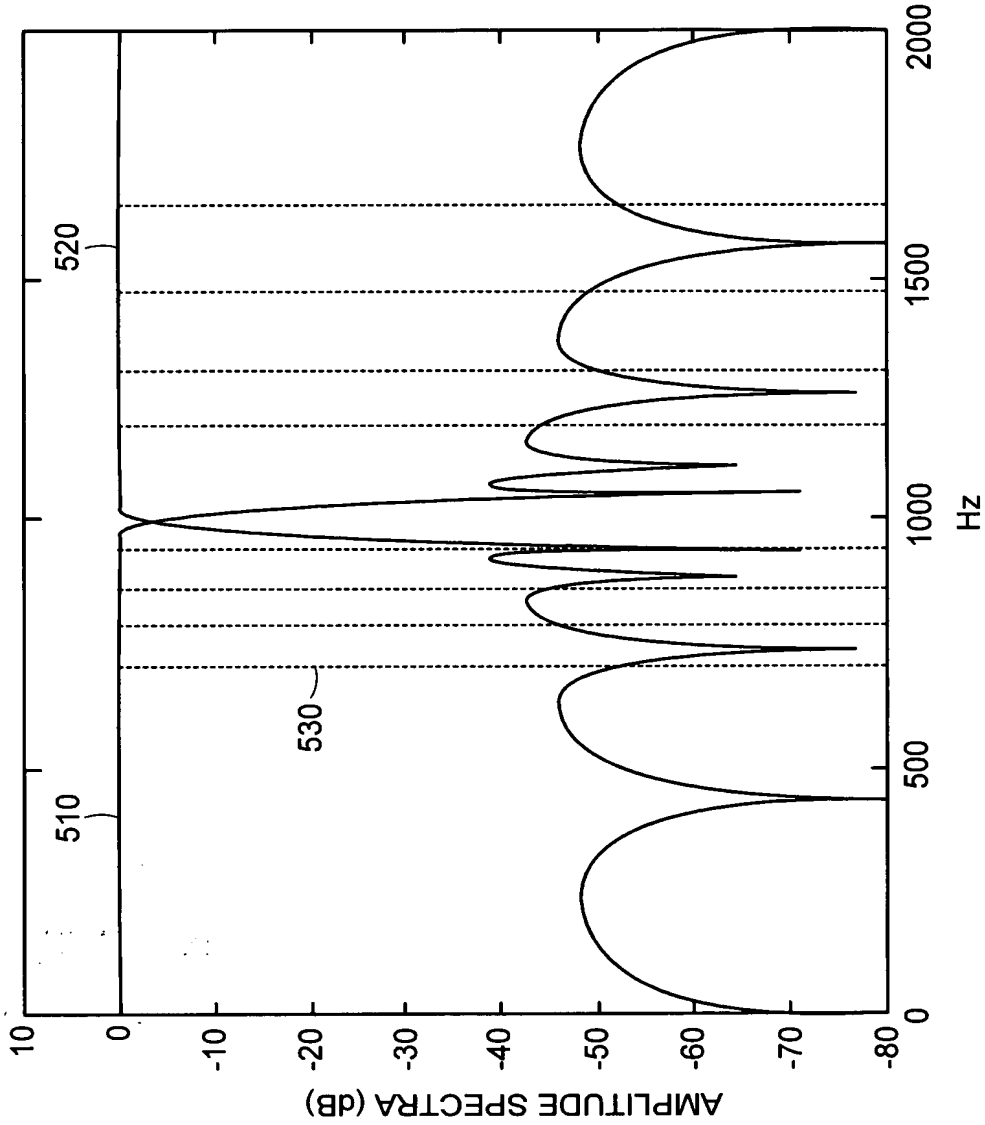


COMPACT IMPLEMENTATION OF A FIRST-ORDER ALL-PASS SECTION

FIG. 5

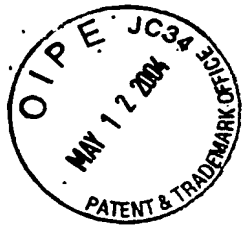


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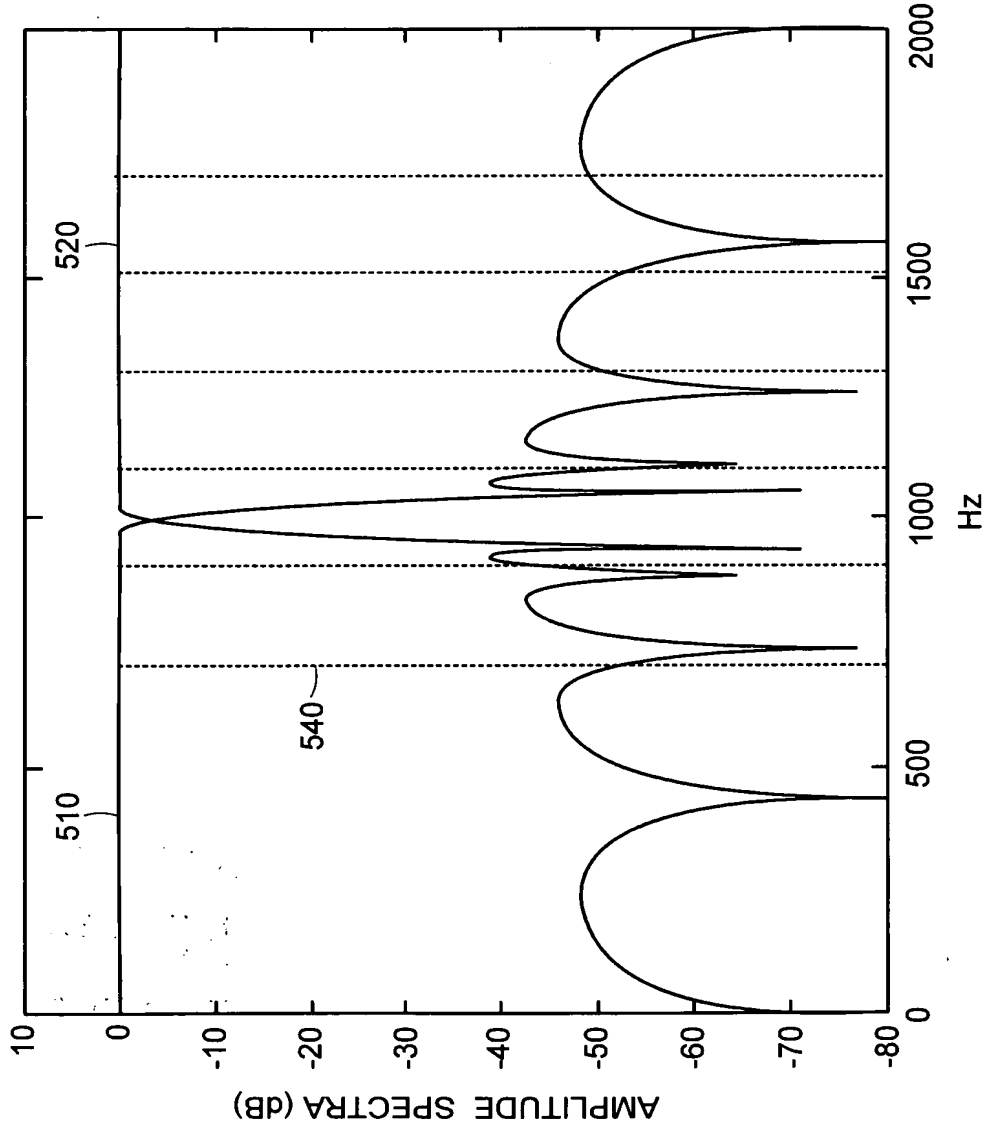


BAND-SPLIT FILTERS AND DTMF

FIG. 6



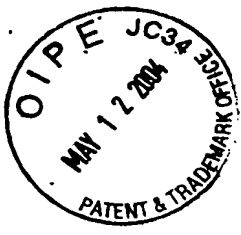
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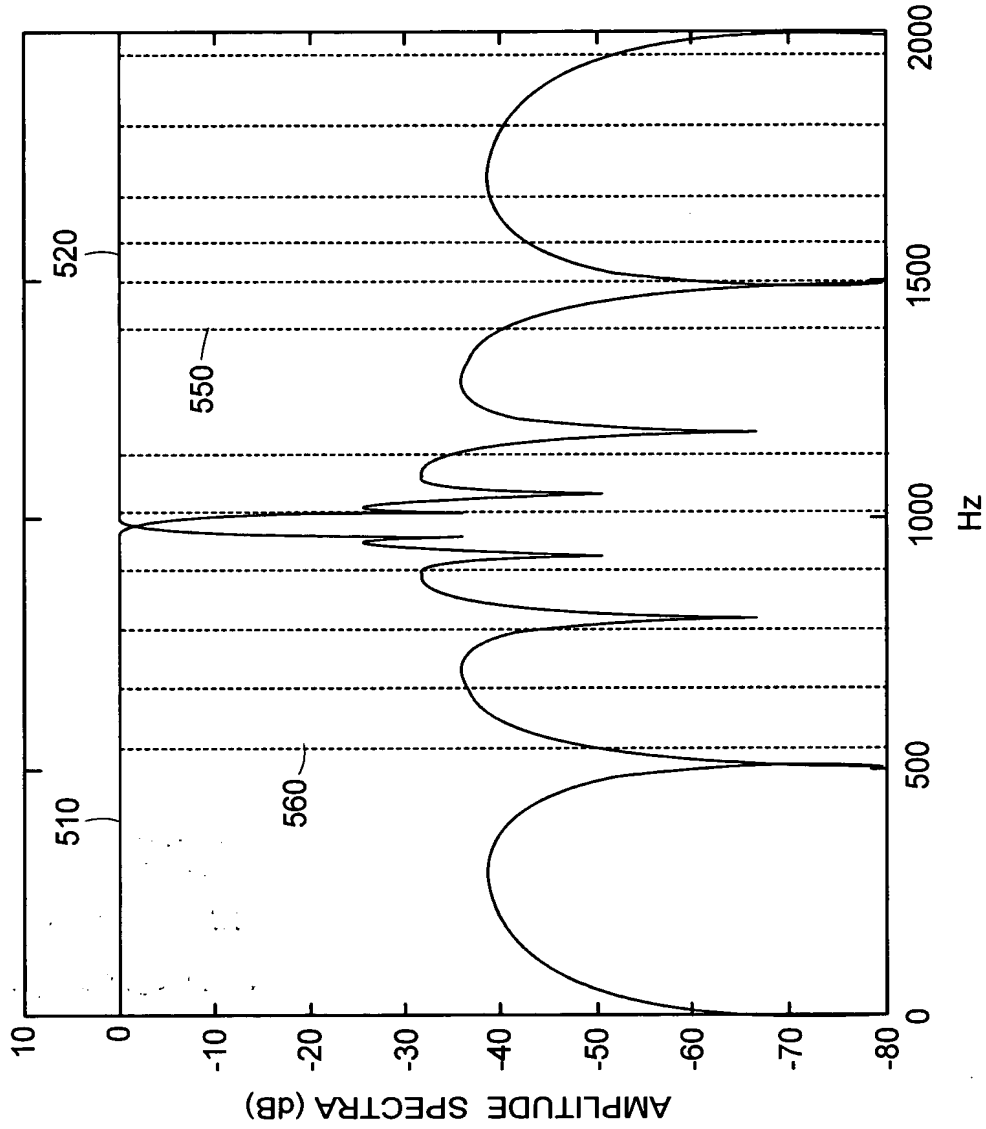
BAND-SPLIT FILTERS AND MF-R1

FIG. 7



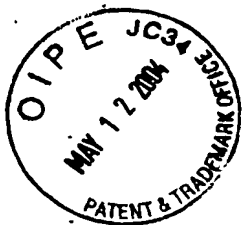


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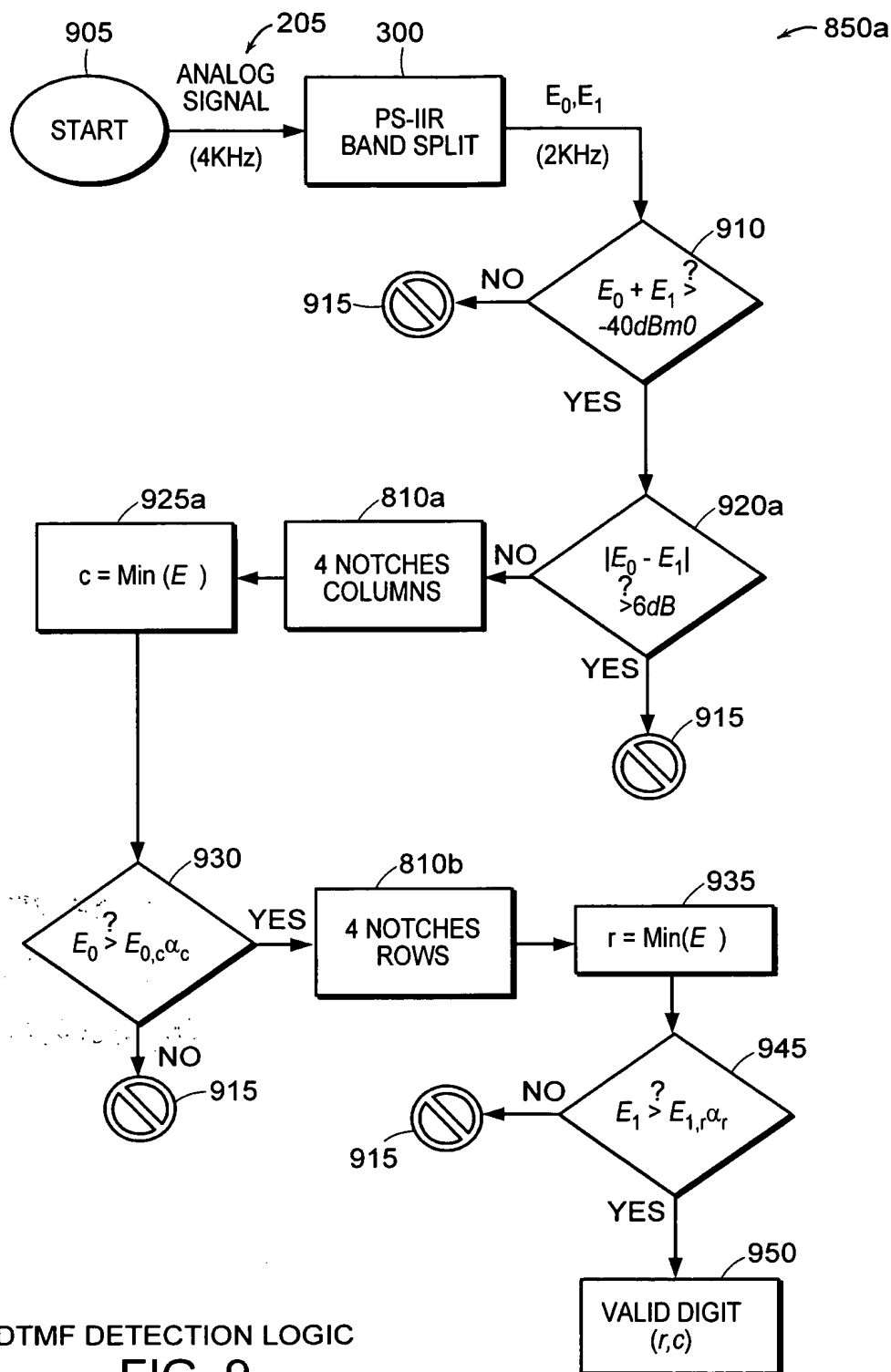


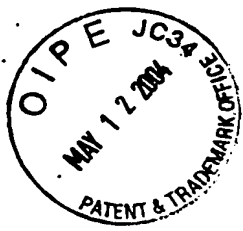
BAND-SPLIT FILTERS AND MF-R2

FIG. 8

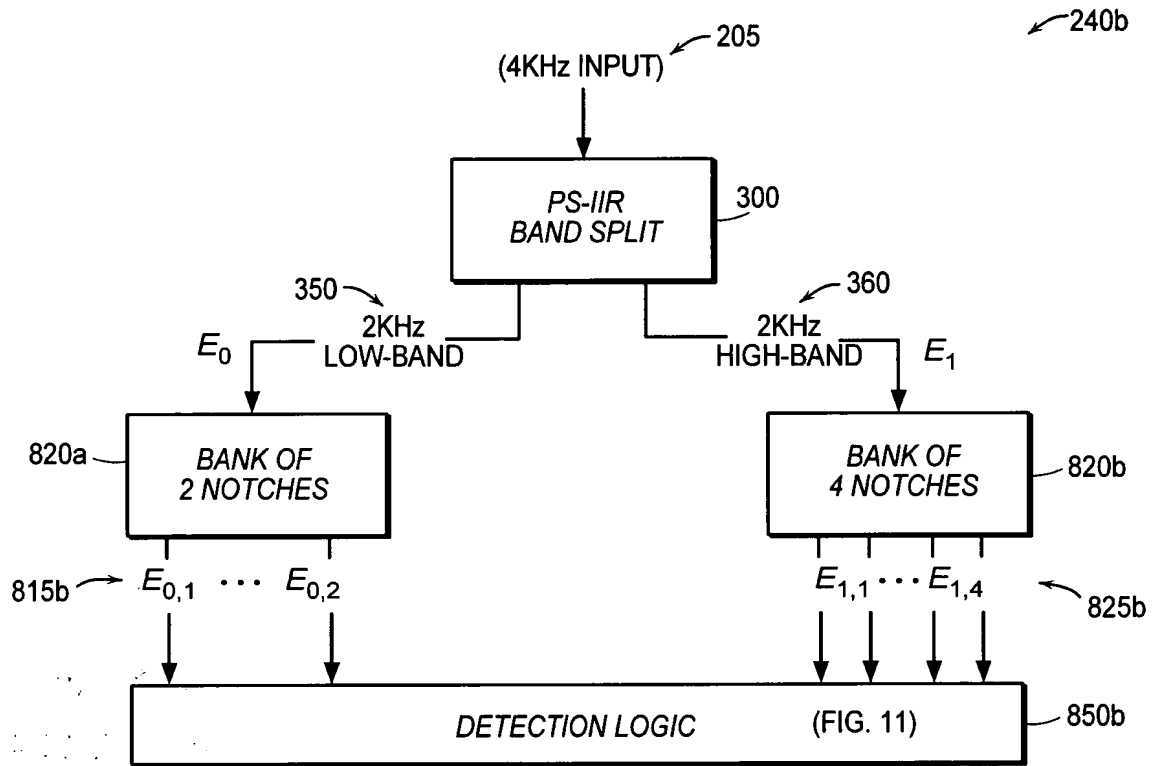


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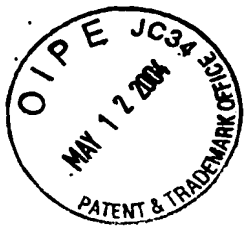


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MF-R1 DETECTOR BLOCK DIAGRAM

FIG. 10



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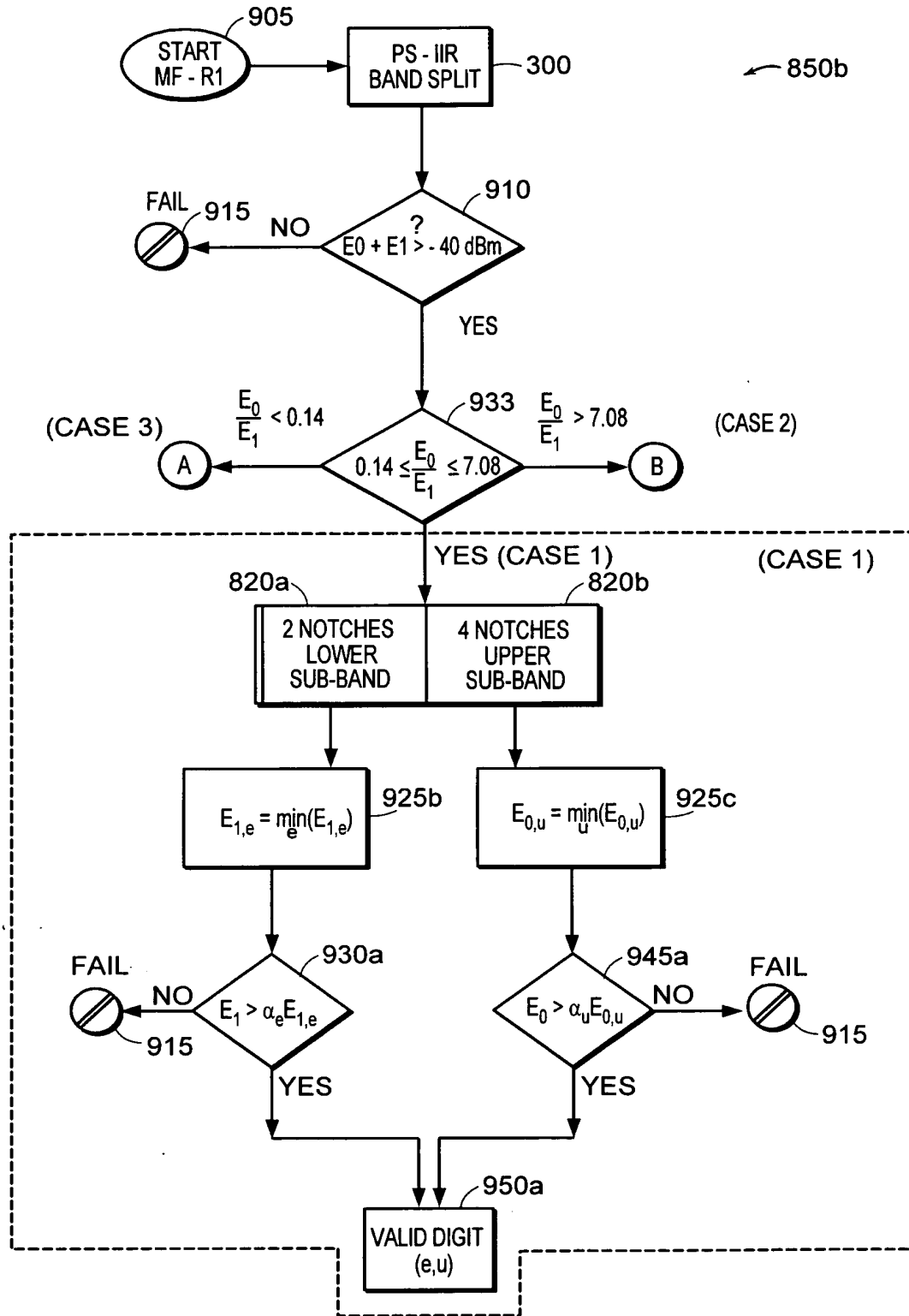
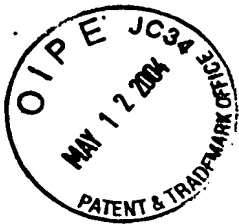


FIG. 11A



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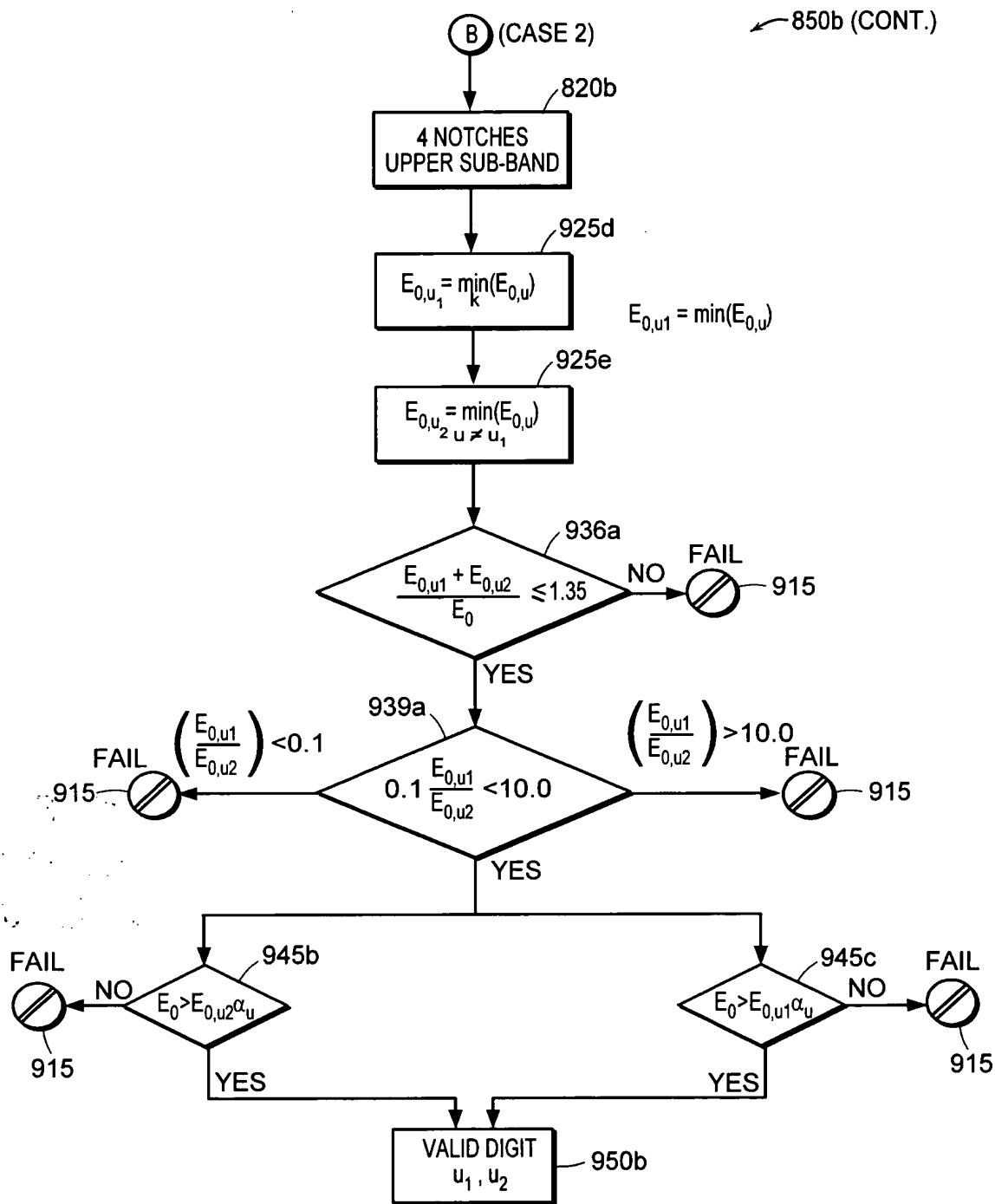


FIG. 11B

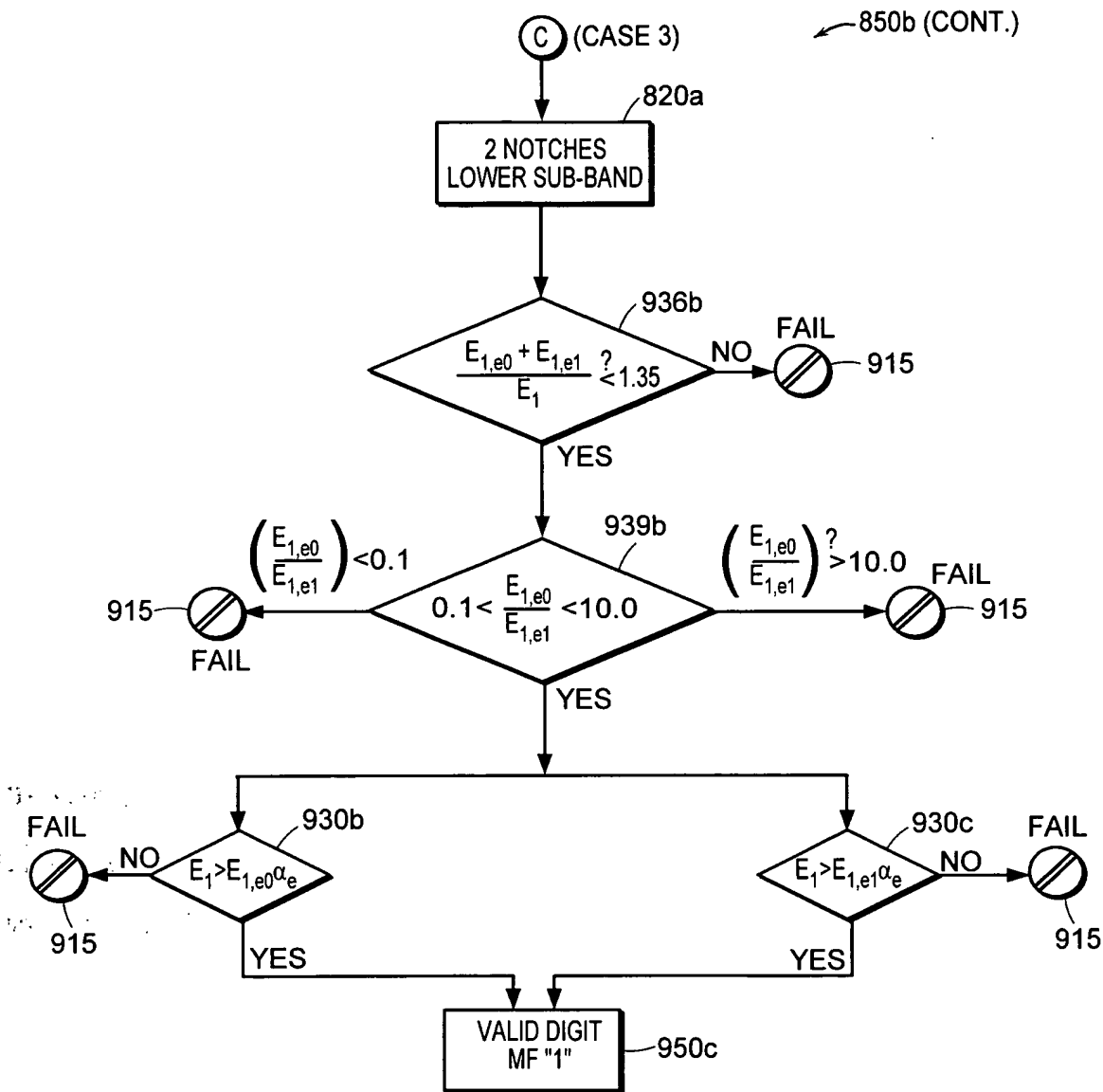
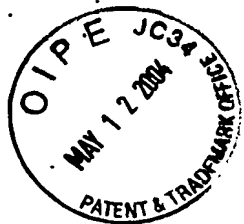
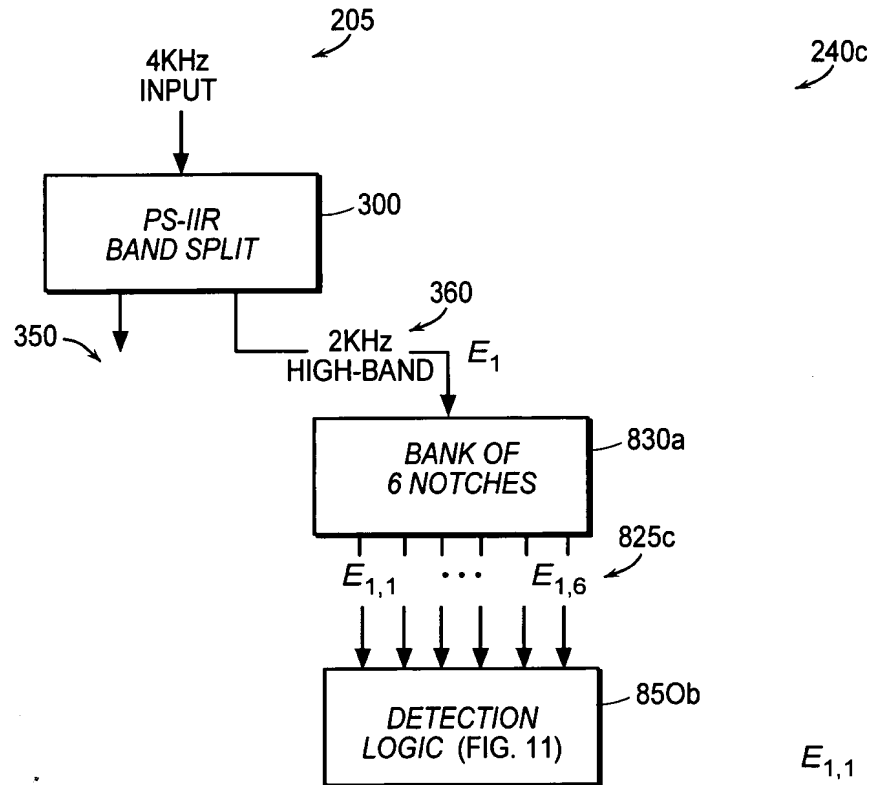
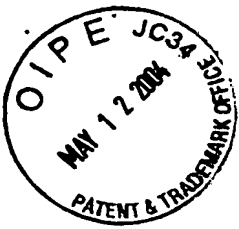
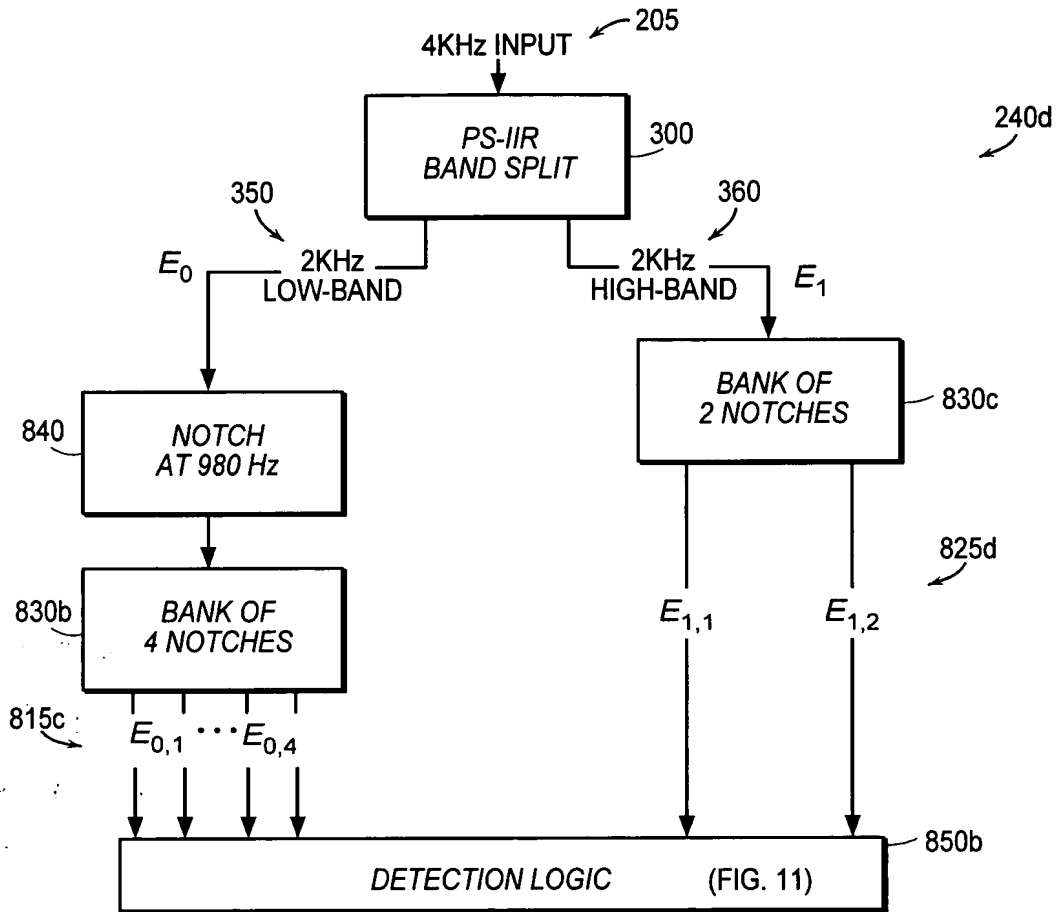
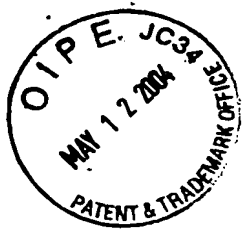


FIG. 11C



MF-R2 FORWARD DETECTOR BLOCK DIAGRAM

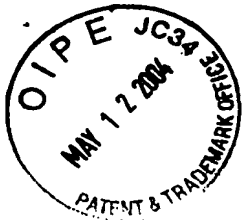
FIG. 12



MF-R2 BACKWARD DETECTOR  
BLOCK DIAGRAM.

FIG. 13





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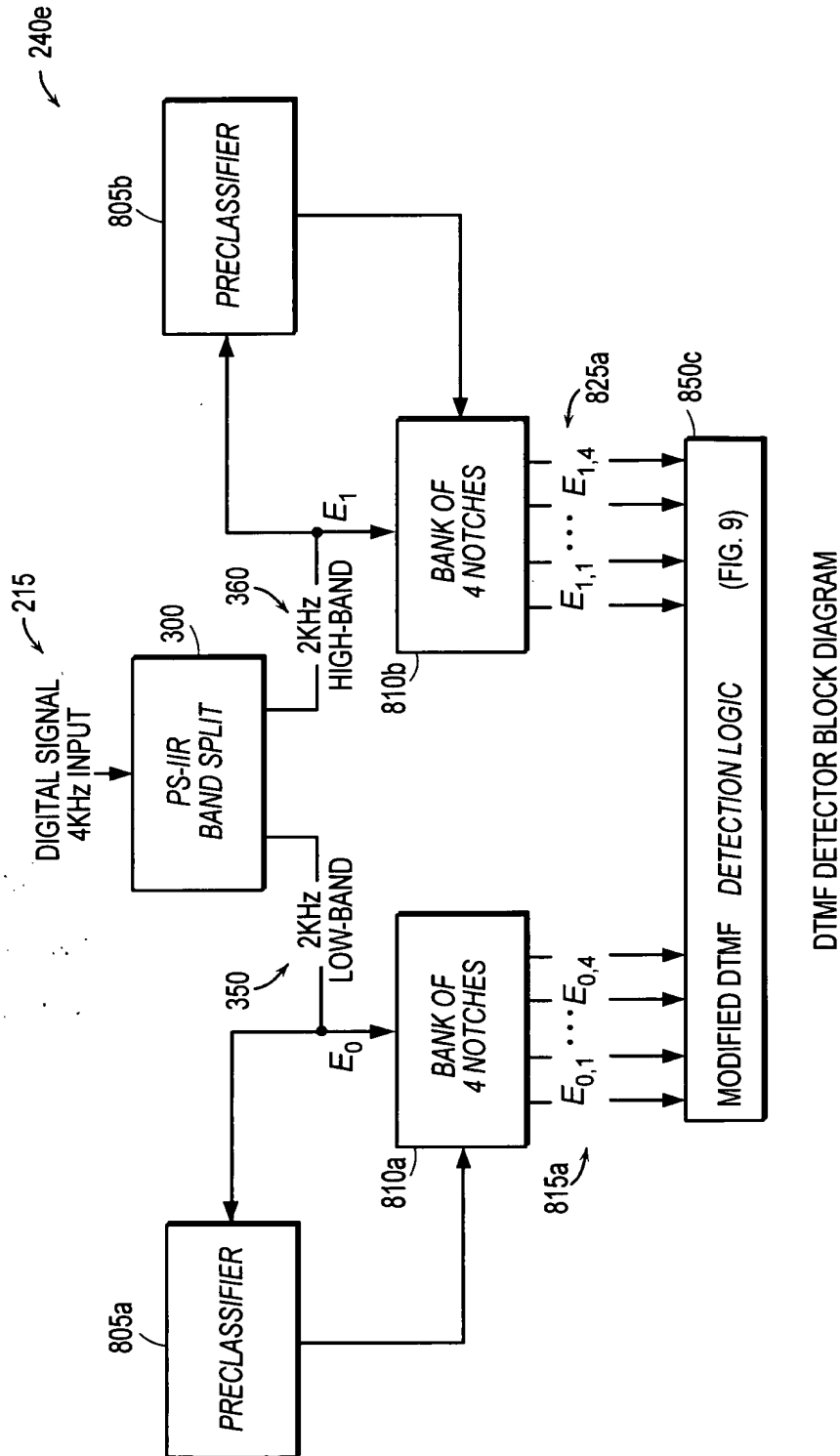
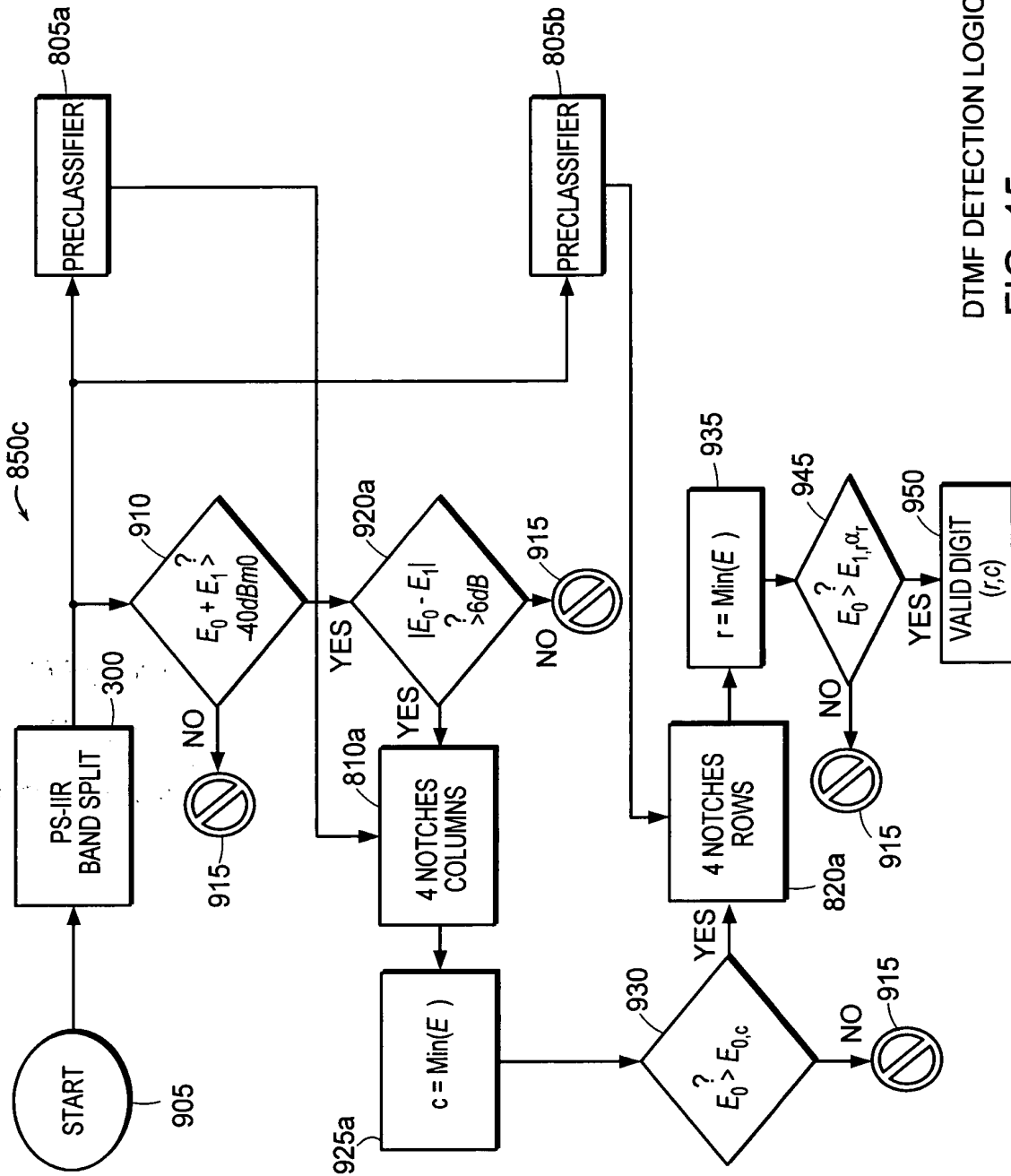
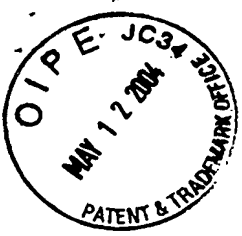


FIG. 14



DTMF DETECTION LOGIC  
 FIG. 15